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EXAMINER	
DIVECHA, KAMAL B	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/518,753	ARNOLD ET AL.	
	Examiner	Art Unit	
	KAMAL B. DIVECHA	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20, 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20061103*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 3-6, 9, 10, 12-14, 16-20 and 34 are pending in this application.

Claims 2, 11 and 15 are cancelled in response filed on March 13, 2007.

Claims 7, 8 and 21-33 were previously cancelled.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed on March 13, 2007 in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 13, 2007 has been entered.

Response to Arguments

Applicant's arguments filed on March 13, 2007 in association with a Request for Continued Examination (RCE) with respect to claims 1-6, 9-20 and 34 have been fully considered but are moot in view of the new ground(s) of rejection, as presented herein, as necessitated by the amendments.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on November 3, 2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 14 and 16-20 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 14 recites:

> A computer program product for...the computer program product comprising:
> computer code for...
> computer code...
> computer code...
> computer code...
> computer code...
> computer readable medium that stores the computer codes.

First, the claim fails to fall into any of the four enumerated categories of patentable subject matter recited above.

The claim is directed towards a non-statutory subject matter such a computer code, program and/or software per se, i.e. a mere program listing, which does not appear to be a process, machine, manufacture or composition of matter.

Further, in order to realize the functionality encompassed by the computer code, the computer code needs to be executed by a processor and/or a computer system, which produces "useful, concrete and tangible results".

Secondly, the claims as recited, fails to produce useful, concrete and tangible results. See MPEP § 2106 (IV) for more on compliance with 35 U.S.C. 101.

Claims 16-20 are rejected for the same reasons as set forth in claim 14.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1, 3-6, 9, 10, 12-14, 16-20 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lathrop (U. S. Patent No. 5,701,427) in view of Wesley (US 6,076,114) and further in view of Ma et al. (hereinafter Ma, US 5,920,725).

As per claim 1, Lathrop discloses a method for transmitting a packet of data from a first computing system to a second computing system, the first computing system and the second computing system being included in a client/server object-based computing system (simply interpreted as client/server architecture), wherein the first computing system is a server and the second computing system is a client (see fig. 1 and col. 1 L43 to col. 2 L33), the method comprising:

identifying the packet of data using the first computing system, wherein said second computing system is listening (fig. 2 item #36, 37 and 34; col. 5 L33-49), wherein the packet of data includes data which represents an object in the client/server object-based computing system (i.e. data or information or item in a message in a client/server architecture), the object been identified as an object which the second computing system has an interest in receiving updates (col. 5 L33-66);

attempting to send the packet of data from the first computing system to the second computing system (fig. 2 item #32, 38; fig. 7A and 7B);

determining when the packet is received by the second computing system (fig. 7A item #260-262 and fig. 7B item #263-264);

re-attempting at least once to send the packet of data from the first computing system to the second computing system when it is determined that the packet of data is not received by the second computing system, wherein each re-attempt is based on a delay and/or time differential (col. 2 L2-20, col. 7 L20-25, col. 9 L59 to col. 10 L65, col. 11 L64 to col. 12 L41, col. 14 L40-53, col. 20 L54 to col. 21 L19).

However Lathrop does not disclose the process wherein the object includes data and functionality, the process of sending an acknowledgement from the second computing system to the first computing system when it is determined that the packet of data is received by the second computing system, the acknowledgement being arranged to indicate that the packet of data is received by the second computing system and the process wherein a time differential between each re-attempt is determined using statistical information including at least one measurement of an amount of time elapsed for another packet of data to be sent and received.

Wesley, from the same field of endeavor clearly discloses the process of sending an acknowledgement from the second computing system to the first computing system when it is determined that the packet of data is received by the second computing system, the acknowledgement being arranged to indicate that the packet of data is received by the second computing system (fig. 1, fig. 5 item #504, col. 3 L20 to col. 4 L31, col. 5 L40 to col. 6 L63, col. 7 L45-67) and the process of re-attempting to send the data packet at least once from the first computing system to the second computing system when it is determined that the packet of data is not received by the second computing system, wherein a time differential between each re-attempt is determined using statistical information including at least one measurement of an amount of time elapsed for another packet of data to be sent and received (i.e. time differential is based on round trip time for a packet, fig. 5 item #506, 512, fig. 6, fig. 7, col. 4 L32 to col. 5 L39, col. 5 L41 to col. 6 L63, col. 7 L45 to col. 8 L25, col. 11 L50 to col. 12 L21).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teachings of Wesley as stated above with Lathrop, in order to employ the process of sending an acknowledgement from the client to the server when it is determined that the packet is received by the client and to indicate that the packet is received by the client and the process wherein the time differential is determined using the statistical information such as a round trip time of a packet.

One of ordinary skilled in the art would have been motivated because it would have improved reliability of data transmissions in a communications network (Wesley: col. 4 L18 to col. 5 L67, col. 7 L45-67).

However, Lathrop in view of Wesley does not disclose the process wherein the object includes data and functionality (i.e. objects, as understood in the field of object-oriented computing systems and as specified by the applicant's specification "are generally programming units which include data and functionality and are instances of classes").

Ma, from the same field of endeavor, explicitly discloses the process of sending a packet of data from the server to the client, wherein the packet of data includes data which represents an object in the client/server object-oriented computing system and wherein the object includes data and functionality (fig. 1: client/server architecture, fig. 2 item #34 and #42, fig. 6: client/server, col. 2 L1 to col. 3 L56, col. 5 L60 to col. 6 L67, col. 7 L1-56, col. 13 L40 to col. 14 L30).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Lathrop in view of Wesley, and further in view of Ma in order to transmit a packet of data which includes an object comprising a data and functionality.

One of ordinary skilled in the art would have been motivated because this would have enabled an application to be updated that comprises plurality of objects (Ma, col. 15 L13-48 and col. 1 L15 to col. 2 L12).

As per claim 3, Lathrop discloses the process wherein re-attempting to send the packet of data does not include attempting to establish communications between the first computing system and the second computing system (col. 15 L35 to col. 16 L16).

As per claim 4, Lathrop discloses the process of determining when the re-attempt to send the packet of data is successful, wherein when it is determined that the re-attempt to send the packet of data is not successful, an attempt is made to establish communications between the first

computing system and the second computing system (col. 20 L4 to col. 22 L14 and fig. 6A-7B; col. 19 L57 to col. 20 L31).

As per claim 5, Lathrop discloses the process of establishing a connection between the first computing system and the second computing system before identifying the packet of data (Lathrop, fig. 6A item #200-202 and fig. 1).

However, Lathrop does not disclose the connection being a wireless connection.

Wesley, from the same field of endeavor discloses a system and a method for delivery of information over a wireless link, connection and/or network (col. 3 L20 to col. 4 L67, col. 5 L21-40, col. 5 L41 to col. 6 L64).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Wesley as stated above with Lathrop in order to utilize wireless connection for delivering data.

One of ordinary skilled in the art would have been motivated because of the improved performance level in a wireless network (Wesley, col. 4 L10-31, col. 5 L20-39).

As per claim 6, Lathrop discloses the process of placing the packet of data in a queue using the first computing system, and removing the packet of data from the queue using the second computing system (col. 22 L49-63)

However, Lathrop does not disclose the process wherein the queue is arranged to prioritize the packet of data with respect to any packets of data associated with the queue.

Wesley, from the same field of endeavor discloses the system wherein the queue is arranged to prioritize the packet of data with respect to any packets associated with the queue (col. 5 L6-39, col. 8 L1-31).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Lathrop in view of Wesley in order to prioritize the packet of data associated with the queue.

One of ordinary skilled in the art would have been motivated so that the critical data is routed first.

As per claim 9, Lathrop discloses a method for transmitting a packet of data from a first computing system to a second computing system, the first computing system and the second computing system being included in a client/server object-based computing system, wherein the first computing system is a server and the second computing system is a client (see fig. 1 and col. 1 L43 to col. 2 L33), the method comprising:

attempting to send the packet of data from the first computing system to the second computing system, wherein said second computing system is listening, wherein the packet of data includes data which represents an object in the client/server object-based computing system (fig. 2 item #32, 38; fig. 7A and 7B and col. 6 L51 to col. 7 L26), the object been identified as an object which the second computing system has an interest in receiving updates;

determining when the packet is received by the second computing system (fig. 7A item #260-262 and fig. 7B item #263-264); and

assuming that packet losses have occurred when it is determined that the packet of data is not received by the second computing system (col. 7 L20-41), wherein assuming that packet losses have occurred includes repeating a) and b) for up to predetermined maximum number of times (col. 9 L49-66).

However, Lathrop does not disclose the process wherein the object includes data and functionality and the process of identifying the packet of data as being successfully sent when it is determined that the packet of data is received by the second (i.e. by sending an acknowledgement message to the sender) and the process wherein a time differential between each attempt at repeating a) and b) is determined using statistical information including at least one measurement of an amount of time elapsed for another packet of data to be sent and received.

Wesley, from the same field of endeavor clearly discloses the process of sending an acknowledgement from the second computing system to the first computing system when it is determined that the packet of data is received by the second computing system, the acknowledgement being arranged to indicate that the packet of data is received by the second computing system (fig. 1, fig. 5 item #504, col. 3 L20 to col. 4 L31, col. 5 L40 to col. 6 L63, col. 7 L45-67) and the process of re-attempting to send the data packet at least once from the first computing system to the second computing system when it is determined that the packet of data is not received by the second computing system, wherein a time differential between each re-attempt is determined using statistical information including at least one measurement of an amount of time elapsed for another packet of data to be sent and received (i.e. time differential is based on round trip time for a packet, fig. 5 item #506, 512, fig. 6, fig. 7, col. 4 L32 to col. 5 L39, col. 5 L41 to col. 6 L63, col. 7 L45 to col. 8 L25, col. 11 L50 to col. 12 L21).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teachings of Wesley as stated above with Lathrop, in order to employ the process of sending an acknowledgement from the client to the server when it

is determined that the packet is received by the client and to indicate that the packet is received by the client and the process wherein the time differential is determined using the statistical information such as a round trip time of a packet.

One of ordinary skilled in the art would have been motivated because it would have improved reliability of data transmissions in a communications network (Wesley: col. 4 L18 to col. 5 L67).

However, Lathrop in view of Wesley does not disclose the process wherein the object includes data and functionality (i.e. objects, as understood in the field of object-oriented computing systems and as specified by the applicant's specification "are generally programming units which include data and functionality and are instances of classes").

Ma, from the same field of endeavor, explicitly discloses the process of sending a packet of data from the server to the client, wherein the packet of data includes data which represents an object in the client/server object-oriented computing system and wherein the object includes data and functionality (fig. 1: client/server architecture, fig. 2 item #34 and #42, fig. 6: client/server, col. 2 L1 to col. 3 L56, col. 5 L60 to col. 6 L67, col. 7 L1-56, col. 13 L40 to col. 14 L30).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Lathrop in view of Wesley, and further in view of Ma in order to transmit a packet of data which includes an object comprising a data and functionality.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 1.

As per claim 10, Lathrop discloses the process of repeating the process of a) and b) until is determined that the packet of data is successfully sent (col. 12 L2-15).

As per claim 12, Lathrop discloses the process wherein a) and b) have repeated a predetermined number of times, at least one attempt is made to establish a connection between he first computing system and the second computing system (col. 19 L33 to col. 20 L53).

As per claim 13, Lathrop discloses the process of determining when the at least one attempt to establish the connection between the first computing system and the second computing system is successful, wherein when it is determined that the at least one attempt to establish the connection is successful, a) and b) are repeated (col. 19 L33 to col. 20 L55 and col. 18 L25-30).

As per claim 34, Lathrop discloses a method for transmitting a packet of data from a first computing system to a second computing system, the first computing system and the second computing system being included in a client/server object-based computing system, wherein the first computing system is a server and the second computing system is a client (see fig. 1), the method comprising:

identifying the packet of data using the first computing system, wherein said second computing system is listening (fig. 2 item #36, 37 and 34; col. 5 L33-49), wherein the packet of data includes data which represents an object in the client/server object-based computing system (i.e. data or information), the object been identified as an object which the second computing system has an interest in receiving updates (col. 5 L33-66);

attempting to send the packet of data from the first computing system to the second computing system (fig. 2 item #32, 38; fig. 7A and 7B);

determining when the packet is received by the second computing system (fig. 7A item #260-262 and fig. 7B item #263-264);

re-attempting at least once to send the packet of data from the first computing system to the second computing system when it is determined that the packet of data is not received by the second computing system, wherein each re-attempt is based on a delay and/or time differential (col. 2 L2-20, col. 7 L20-25, col. 9 L59 to col. 10 L65, col. 11 L64 to col. 12 L41, col. 14 L40-53, col. 20 L54 to col. 21 L19).

However Lathrop does not disclose the process wherein the object includes data and functionality, the process of sending an acknowledgement from the second computing system to the first computing system when it is determined that the packet of data is received by the second computing system, the acknowledgement being arranged to indicate that the packet of data is received by the second computing system and the process wherein a time differential between each re-attempt is determined using statistical information including at least one measurement of an amount of time elapsed for another packet of data to be sent and received.

Wesley, from the same field of endeavor clearly discloses the process of sending an acknowledgement from the second computing system to the first computing system when it is determined that the packet of data is received by the second computing system, the acknowledgement being arranged to indicate that the packet of data is received by the second computing system (fig. 1, fig. 5 item #504, col. 3 L20 to col. 4 L31, col. 5 L40 to col. 6 L63, col. 7 L45-67) and the process of re-attempting to send the data packet at least once from the first computing system to the second computing system when it is determined that the packet of data is not received by the second computing system, wherein a time differential between each re-attempt is determined using statistical information including at least one measurement of an amount of time elapsed for another packet of data to be sent and received (i.e. time differential is

based on round trip time for a packet, fig. 5 item #506, 512, fig. 6, fig. 7, col. 4 L32 to col. 5 L39, col. 5 L41 to col. 6 L63, col. 7 L45 to col. 8 L25, col. 11 L50 to col. 12 L21).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teachings of Wesley as stated above with Lathrop, in order to employ the process of sending an acknowledgement from the client to the server when it is determined that the packet is received by the client and to indicate that the packet is received by the client and the process wherein the time differential is determined using the statistical information such as a round trip time of a packet.

One of ordinary skilled in the art would have been motivated because it would have improved reliability of data transmissions in a communications network (Wesley: col. 4 L18 to col. 5 L67).

However, Lathrop in view of Wesley does not disclose the process wherein the object is represented in an object list in the first computing system, the object list arranged to include objects that are to be updated, and the object also being represented in a filter tree which is arranged to identify objects that the second computing system has an interest in, wherein the object includes data and functionality.

Ma, from the same field of endeavor, discloses the process wherein the objects are represented in an object list in a server, the object list arranged to include objects that are to be updated and represented in a filter tree to identify objects that the client has an interest in, wherein the object include data and functionality (fig. 1: client/server architecture, fig. 2 item #34 and #42, fig. 6: client/server, col. 4 L42-49, col. 2 L1 to col. 3 L56, col. 5 L60 to col. 6 L67, col. 7 L1-56, col. 9 L45 to col. 10 L45, col. 13 L40 to col. 14 L30).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Lathrop in view of Wesley, and further in view of Ma, in order to employ an object list in a server and further objects being represented in a filter tree that are to be updated and wherein the client has an interest in, since Ma teaches the process of forming a filter tree and an object list at the server, which the client has an interest in.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 1.

As per claims 14 and 16-20, they do not teach or further define over the limitations in claims 1, 3-6, 9, 10, 12, 13 and 34. Therefore claims 14 and 16-20 are rejected for the same reasons as set forth in claims 1, 3-6, 9, 10, 12, 13 and 34.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Oguns, U. S. Patent No.: 6,438,603 B1: Reliable and Non-reliable channels of a single network communication link.

b. Chikuma et al., U. S. Patent No. 6,947,435 B1: Communication system.

c. Carr, U. S. Patent No. 4,718,002.

d. Doshi et al., U. S. Patent No. 5,550,848.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kamal Divecha
Art Unit 2151
May 15, 2007.

ZARNI MAUNG
SUPERVISORY PATENT EXAMINER